

JIS

JAPANESE INDUSTRIAL STANDARD

Spray guns

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1. Scope

This Japanese Industrial Standard specifies the spray guns which are generally used to coat objects with paint atomized by compressed air (hereinafter referred to as the spray guns).

Remarks 1. The applicable standards of this standard shall be as follows:

JIS B 0202 Parallel Pipe Threads

JIS K 5402 Ford Cup for Determining Consistency of Coatings

JIS K 5531 Nitrocellulose Lacquer

JIS P 3101 Printing Papers

2. The units and numerical values given in { } in this standard are based on the traditional unit system and are appended for informative reference.

2. Definitions

For the purposes of this standard, the following definitions apply.

- (1) pattern Shape of painted mark which is produced immediately after a blast vertical to the plane. If the shape is round, it is called a round pattern, while if elliptical, it is called an elliptical pattern.
- (2) pattern size The dimension of a pattern, is denoted by the diameter of the circle in a round pattern, and that of an elliptical pattern by the major axis of an ellipse.
- (3) round spray, fan spray Round spray is a spraying method by which a round pattern is produced while fan spray is the method by which an elliptical pattern is produced.
- (4) main body The main body is the core to which each component part is to be fitted.
- (5) air cap The air cap is a part which spouts compressed air to atomize paint and to help form suitable patterns.
- (6) paint nozzle The paint nozzle is a nozzle through which paint is atomized.
- (7) bore of paint nozzle Bore of paint nozzle is the inner diameter of the spouting hole of the apex of paint nozzle.
- (8) needle valve The needle valve is the part which controls opening or closing of spouting hole of paint nozzle.

- (9) air valve The air valve is the part which controls opening or closing of the air passage.
- (10) trigger The trigger is the part to be manipulated by fingers to make the needle valve and air valve operate.
- (11) paint spray quantity regulating device A device which regulates the atomized paint quantity by regulating the movement of a needle valve.
- (12) air quantity regulating device A device which controls the quantity of air used by the spray gun.
- (13) pattern size regulating device A device which regulates the pattern size by controlling air quantity to be sent to horn holes of the air cap.
- (14) atomized air pressure The static pressure of the air nipple part when the trigger has been pulled.
- (15) air consumption The quantity of air to be used per unit time by a spray gun.
- (16) paint spraying quantity The quantity of paint spouting from the paint nozzle per unit time during a spray.

3. Class

The spray guns shall be classified according to the paint supply method, kinds of objects to be painted, spray method and bore of paint nozzle as given in Table 1.

Table 1. Classification of spray gun

Unit: mm

Paint supply- ing method	Division according to objects to be painted	Spraying method	Bore of paint nozzle													
			0.5	0.6	0.8	1.0	-	-	-	-	-	-	-	-	-	-
Gravity method ⁽¹⁾	S	Round spray														
Suction method ⁽²⁾	S	Fan spray	-	-	0.8	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.8	-	-	-
Gravity method	L	Fan spray	-	-	-	-	-	-	1.3	1.4	1.5	1.6	1.8	2.0	2.5	3.0
Pressure feed method ⁽³⁾	S	Fan spray	-	-	0.8	1.0	1.1	1.2	-	-	-	-	-	-	-	-
	L	Fan spray	-	-	-	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.8	2.0	-	-

Notes ⁽¹⁾ Method which paint container is mounted on the upper part of the spray gun and paint is to be fed by means of gravity.

- (²) Method which paint container is mounted on the lower part of the spray gun, and paint is sucked up by means of suction caused by a negative pressure due to air sprayed from spray gun.
- (³) Method which the paint is sent to the paint nozzle after pressurizing it.

Remarks 1. The division S according to objects to be painted indicates the spray gun used generally for small objects which is small in quantity of both air consumed and paint sprayed. The L indicates the spray gun relatively large in air consumption and paint sprayed and the spray gun to be used for large objects to be painted generally.

- 2. By "round spray gun" capable only of round spraying while by "fan spray gun", a spray gun used mainly for fan spraying.

4. Names of main parts

The names of the main parts of the spray guns shall be in accordance with Fig. 1.